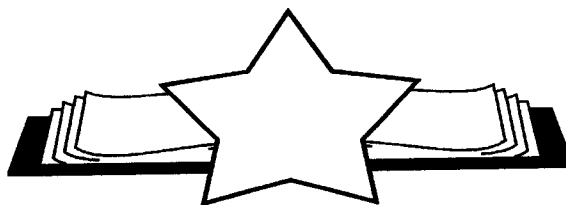


NEW JERSEY

2001-2002

Guidelines and Application

STAR



SCHOOLS

Deadline for Application to County Office:
DECEMBER 14, 2001

The Star School application is a public document. The information that you provide will serve as the official record. Review the application prior to submission to ensure accuracy and adherence to the guidelines. Type or keyboard information requested on this page

County	Monmouth		
District (Proper Name)	Monmouth County Vocational School District		
Address	Street P. O. Box 41 Hwy. 34 South		Zip Code
	City	Colts Neck	07722
Telephone (732) 431-7942	Fax (732) 409-6736	Email www.mcvsd.org	
Chief School Administrator	Brian D. McAndrew, Ed.D.		
Nominated School (Proper Name)	High Technology High School		
Address	Street/P. O. Box P.O. Box 119		Zip Code
	City	Lincroft	07738
Telephone (732) 842-8444	Fax (732) 219-9418	Email km@hths.mcvsd.org	
Principal	Karen Murdoch		

Chief School Administrator's or
Charter School Lead Person's SignatureA handwritten signature in black ink, appearing to be "A. D. McAndrew", is written over a horizontal line.

FOR USE BY COUNTY SUPERINTENDENT OF SCHOOLS ONLY

Approved: ☒ Yes ☐ No County Superintendent's Signature _____

**NEW JERSEY
STAR SCHOOLS
2001-2002 APPLICATION**

RESPONSES to the information below and the statements must be ANONYMOUS. No reference should be made to the names of the district, the school or the community. Use the words "the school" in referring to the applicant in the responses to the statements.

The following data is required to assist the panelists in the evaluation of the application:		
Type of School <input type="checkbox"/> Elementary School <input type="checkbox"/> Middle School <input type="checkbox"/> Junior High School <input checked="" type="checkbox"/> High School <input type="checkbox"/> Other: _____	Grade Levels _____ _____ 9-12 _____ _____	School Enrollment <u>247</u> Name of the School's Specialization <u>Pre-engineering</u> _____ _____
Location: ____ Urban/city; ____ Suburban with urban characteristics; <input checked="" type="checkbox"/> Suburban; ____ Small City/Town; ____ Rural		
Previous Star School: Yes <input checked="" type="checkbox"/> No ____ If Yes, Year(s) <u>1994-1995</u>		

KEYBOARDED RESPONSES to the statements below must be **no more than a total of five pages**. Keyboard the statement followed by the response.

1. Describe the school's specialization and its objectives, the student educational needs and the specific *Core Curriculum Content Standards*, including the *Cross-Content Workplace Readiness Standards*,* that it addresses. Detail how it promotes high student achievement and contributes to school-wide accomplishments.
2. Describe the professional development activities and research of the school's faculty. Detail to what extent these activities contribute to exemplary teaching practices in their classrooms. Explain the link between these activities and the specialization.
3. Describe the leadership style of the school's administration and how the management and educational program demonstrate administrative and fiscal efficiency. Describe any innovative scheduling and/or management strategies implemented.
4. Describe the school's overall approach to assessment. How are your methods aligned to the specialization? How are you ensuring that the content you are measuring is consistent with the *Core Curriculum Content Standards*? Provide student performance data for at least the 1999-2000 and 2000-2001 school years. Use state tests and, if available, national and/or district standardized norm-referenced tests, criterion-referenced tests, and/or alternative assessments. Explain any dramatic increase or decrease. Specify which groups, if any, are excluded from the assessments for which you provide data. Give the percentage of students excluded. You may use a chart.
5. Describe collaborative efforts with families, business, the community, school districts, and/or higher education that contribute to a school environment governed by the students' needs and promoting high student achievement.
6. **Previous Star School Winners Only:** Provide a one-page addendum to your application that describes efforts to expand or replicate the specialization within the school and/or the district. Have there been dissemination activities beyond the school or district? If so, please elaborate.

*The May 1996 edition of the *Core Curriculum Content Standards* published by the New Jersey State Department of Education was disseminated to all districts and charter schools and is available on line through the department's website at <http://www.state.nj.us/education>.
6appss.01-02b

1. Describe the school's specialization or whole-school reform model and its objectives, the student educational needs and the specific *Core Curriculum Content Standards, including the Cross-Content Workplace Readiness Standards*, that it addresses. Detail how it promotes high student achievement and contributes to school-wide accomplishments.

The school is a full-time, specialized high school with a pre-engineering career focus. Built in collaboration with and located on the campus of the county community college, the school provides a caring, nurturing, student-centered learning environment in which mathematics, science and technology are emphasized. All curricula are designed to complement the engineering theme of the school, enabling students to see and appreciate the interconnections among science, mathematics, technology and humanities as well as preparing them for college and the workplace. While all subject areas ensure that students meet the rigors of the Core Curriculum Content Standards, the Cross-Content Workplace Readiness Standards are strongly emphasized throughout the curricula. Students develop skills in communication, decision making and technology. They learn to read analytically, speak lucidly and confidently, write effectively, listen actively, and think critically across the disciplines. They are consistently asked to do presentations in all classes, quickly developing the confidence to speak before all types of audiences. Beginning in tenth grade, students are involved in a variety of college experiences as a component of their high school program for pre-engineering. In the junior year, students may also select to enroll in one of the following: classes at the community college; the four semester Cisco Certified Networking Academy (CCNA), taught by one of our instructors who has been certified by Cisco Systems; or - beginning with the Class of 2005 - Digital Electronics, which will be taught by the school's staff who will have been trained by Rochester Institute of Technology. The variety of courses provides a wide range of educational opportunities for students, challenges them to achieve at very high levels, and requires them to learn and demonstrate self-management skills. In addition, a required semester-long mentorship experience during the senior year exposes each student to a real work environment as he/she participates in a technology-based project in collaboration with an engineer, scientist, or business person.

As a result of the challenging curricula and related experiences, students continually perform well in standardized tests, statewide design challenges, scientific research conferences, math league competitions, etc.

2. Describe the professional development activities and research of the school's faculty. Detail to what extent these activities contribute to exemplary teaching practices in their classrooms. Explain the link between these activities and the specialization or whole-school reform model.

Staff development has been a priority since the inception of the school. Through creative scheduling of professional development opportunities, such as common planning periods, building and program specific workshops and seminars, and released time for teachers, staff development is realistic and practical. Because the philosophy of the school is one of collaboration as opposed to separation by departments, when new ideas are learned, they are shared by the faculty through formal and informal networking sessions. Many times these meetings will include instructors from the same discipline in other district high schools. In addition to school and district wide workshops, staff

participate in seminars and conferences presented by state and national professional organizations as well as colleges and universities.

Many of the faculty members have earned advanced degrees, including two doctorates. Three teachers are currently enrolled in graduate programs and others have conducted action research projects at the school. One example is a research project on portfolio assessment, developed by a science teacher for her masters thesis, and now incorporated into her student evaluation process. The success of her research led to the presentation of her project at a national science conference in Texas. A social studies teacher has been awarded the prestigious James Madison Fellowship to complete his graduate studies. In 1999 one of the English instructors received a grant from the Geraldine R. Dodge Foundation that enabled her to coordinate a Folger Shakespeare Library workshop for interested teachers from all county middle and high schools. Several of the school's faculty members have regularly presented content area technology workshops for the county ETTC.

Equipped with the technology for distance learning, the school has also provided several professional development opportunities for teachers. A group of instructors and administrators participated in a technology course through NYIT; district-wide meetings have taken place electronically; and, most recently, teachers have been introduced to the possibilities of bringing museums, NASA, and other programs into the classroom through a district-sponsored series of workshops.

For many years the school has been a member of the National Consortium of Specialized Secondary Schools of Science, Math and Technology (NCSSSMST), which is an excellent source for professional development. Through the consortium the school is made aware of the latest instructional techniques and curriculum related to the specialization of the school. One of the school's science teachers voluntarily serves on the NCSSSMST Executive Council and attends several meetings and workshops each year.

The district and the school have a strong belief in the value of the alternate route certification program for teachers. Through this process the students have benefited from the expertise and experience of a mechanical engineer, environmental engineer, nuclear physicist and several others who have worked in technology-based industries. Their knowledge of the practical applications of their content areas is valuable to students and staff alike as curricula related to the engineering theme of the school are developed and implemented.

All staff members are aware that excellence in teaching translates to excellence in learning. In order to maintain that level in the classroom, they enthusiastically research and develop new and innovative methods for instruction and assessment.

3. Describe the leadership style of the school's administration and how the management and educational program demonstrate administrative and fiscal efficiency. Describe any innovative scheduling and/or management strategies implemented.

The school's principal believes strongly in maintaining an environment of consensus, collegiality and collaboration. She recognizes that all members of the learning community have the knowledge and creativity to foster an effective, exciting environment in which to learn. While the principal is charged with making final decisions regarding all aspects of the school from curriculum to student activities to grounds-keeping, she will always seek input from all parties involved. When ideas are exchanged

and refined, the collective group works toward the success of the endeavor. Through a strong student government and communication with the principal via e-mail or discussion, students are heard and suggestions with merit are implemented.

This management style also encourages the teachers' participation in curriculum development and fosters a climate of team teaching as well as problem solving. The faculty's ownership of the educational program promotes a shared vision for its effectiveness. An Instructional Council, with faculty representation from all disciplines, is responsible for the process of reflection, review and planning for the future.

Since the school not only utilizes the physical site of the community college, but also shares its faculty, the students benefit from the college professors' teaching experience and subject matter expertise. Students and staff use technology laboratories, fitness room and gymnasium, a recently renovated library and a variety of classrooms. Similarly, through the partnership with Cisco Networking Systems, the school has access to their curriculum, instruction and equipment. These cooperative endeavors contribute to the overall fiscal efficiency of the school.

The school's daily schedule resembles that of a college: five seventy-minute periods, with classes meeting three times per week. Exceptions to this are the science and Advanced Placement math classes, which all meet four times per week. Several examples of innovative scheduling are evident:

- At the freshman level, students are enrolled in two integrated courses: Biology/Introduction to Engineering Design/Computer Applications (BioTech) and Humanities (English I and World Cultures). In both of these courses, BioTech and Humanities, students are scheduled in blocks of 140 minutes. This type of scheduling allows teachers the flexibility to structure the time as topics and activities warrant.
- In order to replace traditional study halls in the freshman and sophomore years, a rotating schedule of four courses (guidance, health, data analysis and an introductory research course) has been implemented. This has proved to be a very efficient and successful use of one period per week for each student.
- At the junior and senior levels, students have two mornings per week for college or Cisco classes. This scheduling also allows an appropriate amount of time for students to work at their mentorship site.
- In many cases, the schedule is adjusted as needed for programs that are deemed important for the students' education. For example, two years ago an abbreviated schedule was designed so that students could meet periodically for student-led interest groups.

4. Describe the school's overall approach to assessment. How are your methods aligned to the specialization or whole-school reform model? How are you ensuring that the content you are measuring is consistent with the *Core Curriculum Content Standards*? Provide student performance data for the school years 1998-1999 and 1999-2000 using state tests and, if you wish, national and/or district standardized norm-reference tests, criterion-reference tests, and/or alternative assessments. Explain any dramatic increase or decrease. Specify which groups, if any, are excluded from the assessments for which you provide data. Give the percentage of students excluded. You may use a chart.

The school strives for high levels of achievement. The students demonstrate their mastery through both traditional measures and alternative forms of assessment such as exhibitions and portfolios. Students exercise decision making, communication skills, and

technological expertise in all forms of assessment. For example, when students prepare exhibitions, they must choose which material to include and the best mode in which to present it. The oral presentation is supplemented by technology, whether through the use of computer generated slides or a student produced movie. Some specific examples of alternative assessment are the final presentation for mentorship; the gas laws portfolio in chemistry; the pinhole camera project in physics, CAD and technology; and the biosphere project in BioTech. In all of these performance tasks, students must solve a problem and create a product and/or oral presentation that incorporates computer technology. Teachers use appropriate rubrics for maximum fairness in assessment practices.

Initiated at their request, teachers have been meeting with colleagues from other schools within the district to share and align assessment practices that are being used in conjunction with the Core Curriculum Content Standards. This has proved so successful that the process will continue in order to ensure ongoing opportunities for the development of innovative instruction and assessment techniques.

The following chart details the results of standardized testing for the two most recent graduating classes:

	HSPT	SAT Verbal Mean	SAT Math Mean	NMSQT Commended Scholars	NMSQT Finalists
Class of 2000	100% pass	669	688	20	4
Class of 2001	100% pass	670	681	36	11

All students in each class took both the PSAT and the SAT.

- Describe collaborative efforts with families, business, the community, school districts, and/or higher education that contribute to a school environment governed by the students' needs and promoting high student achievement.

Aided by leaders from local businesses, industry and colleges, the administration, faculty, staff and parents form an integrated community intent upon developing future leaders possessing the desire, skills and preparation necessary to be life-long learners.

The goal of the partnership between school and family is to maintain a high level of communication to ensure student success. Several evening programs sponsored by the school help to meet this goal: Back to School Night, two evenings for parent conferences, and four guidance evenings. The guidance sessions, one for each grade level, are designed to educate parents about the academic and emotional needs of their teenage children. Information about school curriculum, course selections, college searches, college applications and financial aid are disseminated by the guidance counselors as well as guest speakers. A valuable communication tool between parents and the school is an electronic bulletin board system. This allows parents to maintain ongoing contact with the faculty and administration.

The Parent Faculty Association (PFA) is extremely active and collaborates with the administration on important issues. The PFA's Educational Support Committee provides after school programs such as SAT Prep and Driver Education courses for the students. This committee is also responsible for Career Day held each May during which invited members of the business community come to the school and speak with interested students. The Parent/Student Activity Committee works diligently each year to provide a post prom party that is drug and alcohol free.

Another effective partnership is the collaborative agreement with the community college. This arrangement has the following primary goals: to introduce our students to a college environment; to enable them to take college level courses for credit; and to help develop self management skills. Students become better prepared for the rigors of college course work and are ensured a smooth transition into higher education. Last year two students enrolled in online courses through the University of Illinois (advanced mathematics) and NJIT (technology) in order to meet their needs for alternative, challenging learning opportunities. The school plans to continue this practice based on students' needs.

The mentorship program enables seniors to learn valuable life skills in a real work environment while exploring a potential career choice. Although originally a voluntary component of the curriculum, it proved to be of such enormous educational value that it is now a requirement for graduation. Students meet with a potential mentor and agree upon a project. The student works with the mentor on Monday and Wednesday mornings. Each participant keeps a daily log of activities and findings. Students in the mentorship program often research topics, evaluate information and propose solutions to problems. At the conclusion of the semester, the student writes a paper and presents a PowerPoint slideshow that summarizes the mentorship experience for an audience of peers, mentors, and invited guests.

In the Cisco Certification Networking Academy program at the school, students learn computing and networking skills to prepare them for a successful career as Cisco Certified Network Associates. The curriculum is web-based and laboratory experiences at the school closely resemble those of the real world. During the fourth semester, students are engaged in a Cisco-related mentorship where they are able to employ the skills learned during the previous three semesters. Also, as a component of their curriculum, they take part in a simulated job assignment in which they design a network for a local supermarket. Once again, students are learning not only the technical skills for a designated engineering field, but also the workplace skills necessary for successful employment.

Previous Star School Winners Only: Provide a one page addendum to your application that describes efforts to expand or replicate the specialization or whole-school reform model within the school and/or district. Have there been dissemination activities beyond the school or district?

1. Since achieving Star School recognition in 1994-1995, the school has served as a model for new schools within the district that were developed with a career-related theme. Administrators and teachers have fashioned curriculum, technology integration, college partnerships and community-related programs after those in existence at our school. Staff at the school has mentored and advised faculty from the newer high schools. The primary programs/features that have been replicated are mentorships, Cisco Academy, and integration of technology in the curriculum.
2. The addition of the Cisco Certification Networking Academy has expanded and enhanced the engineering theme, which is the school's specialization. Not only do we offer this program to our students, but the school also serves as a regional academy for training staff in other New Jersey school districts.
3. In the school year 2001-2002, the school introduced a new engineering curriculum for high school students that will include three required courses through the sophomore year, with an elective offered to juniors and a senior design project for seniors. Students will be able to receive three credits from Rochester Institute of Technology for the successful completion of each of these courses.
4. The school is now certified by the American Design and Drafting Association. This means that our students receive a document upon graduation certifying that they have completed an ADDA-certified curriculum.
5. Introduction to Research/Data Analysis at the freshman level and Research Practicum/Data Analysis at the sophomore level are required courses in which students learn to conduct authentic scientific research, gather and interpret the data, and present this data to a variety of audiences. While all students are required to complete a basic research project by the end of their sophomore year, several students have continued their research and have been recognized at local, regional and national science conferences for the quality of their work.
6. In order to accommodate the emphasis on science and technology, an addition to the building is scheduled for completion in the spring of 2002. The new space will include a state-of-the-art CAD laboratory and a large laboratory space for student research and development. This facility will provide an area large enough to design and construct engineering projects as well as the space needed to conduct long-term scientific research. This building project again demonstrates the school district's commitment to the specialization of the school.
7. Dissemination activities have included:
 - ◆ Computer classes have been created and offered free of charge to the community by members of the Technology Students Association.
 - ◆ Four information sessions that highlight our programs are presented each year to interested students and parents in the county.
 - ◆ Students enrolled in the Cisco Networking classes have presented at sending district Board of Education meetings.
 - ◆ The school has hosted several meetings of professional organizations such as the New Jersey Association of Supervision and Curriculum Development and the New Jersey Staff Development Council. Information about the school's schedule and curriculum has been included in the programs.
 - ◆ Teachers and administrators from other schools, districts and counties in New Jersey and New York have visited the school for the purpose of researching block schedule ideas, creating specialized high schools, investigating the implementation of integrated curricula, etc.
 - ◆ The New Jersey State Board of Education has held an official meeting at the school. During that time, students conducted tours and spoke about the school's program and how they had benefited from it.